

METHODS FOR FORMING SMALL-SCALE CAPACITOR STRUCTURES

ABSTRACT

The present disclosure provides small scale capacitors (e.g., DRAM capacitors) and methods of forming such capacitors. One exemplary implementation provides a method of fabricating a capacitor that includes sequentially forming a first electrode, a dielectric layer, and a second electrode. At least one of the electrodes may be formed by a) reacting two precursors to deposit a first conductive layer at a first deposition rate, and b) depositing a second conductive layer at a second, lower deposition rate by depositing a precursor layer of one precursor at least one monolayer thick and exposing that precursor layer to another precursor to form a nanolayer reaction product. The second conductive layer may be in contact with the dielectric layer and have a thickness of no greater than about 50Å.